

426/16

BEVERAGES

1353

1861

19

Hops

RECORDED



A.D. 1861, 30th MAY. N° 1353.

Brewing.

LETTERS PATENT to Alfred Blake, of No. 17, Russell Place, Fitzroy Square, in the County of Middlesex, for the Invention of "**IMPROVEMENTS IN THE PROCESS OF BREWING.**"

Sealed the 23rd November 1861, and dated the 30th May 1861.

PROVISIONAL SPECIFICATION left by the said Alfred Blake at the Office of the Commissioners of Patents, with his Petition, on the 30th May 1861.

I, ALFRED BLAKE, of No. 17, Russell Place, Fitzroy Square, in the County of Middlesex, do hereby declare the nature of the said Invention for "**IMPROVEMENTS IN THE PROCESS OF BREWING,**" to be as follows:—

The usual mode of fermenting beer or worts from either malt or sugar, or a mixture of both, has been to mix the worts with yeast or beer in fermentation as soon as they can be cooled after boiling, and mix worts of different gravities together in one or more fermenting tuns, the fermentation being completed by processes known in the trade as cleansing or skimming, and other methods according to the beer, ale, or porter required.

This Invention consists in keeping a portion of the first wort after boiling with hops, in quantity varying from five to twenty-five per cent. of the whole quantity of beer to be made in a separate vessel without yeast or ferment, or with a very small quantity at a relatively lower heat than the main body of the beer in ordinary temperatures. The fermentation of the larger quantity is

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allowed to go on as usual, or rather more rapidly than ordinary, and when from one-fourth to three-fourths of the saccharine matter it originally contained has been decomposed, the before-mentioned smaller quantity of strong wort is mixed with it previous to the completion of the process and removal of the yeast by any of the usual methods. By this Invention, whether the stronger 5 and undecomposed wort or solution of malt or sugar mixed were the product of the same or subsequent brewings a great improvement in the flavour and keeping quality of the beer will result. The essential feature of this Invention is in every brewing to mix worts or beer in different stages of fermentation previous to completing the process by any of the usual methods. 10

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Alfred Blake in the Great Seal Patent Office on the 30th November 1861.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ALFRED BLAKE, of No. 17, Russell Place, Fitzroy Square, in the County of Middlesex, 15 send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Thirtieth day of May, in the year of our Lord One thousand eight hundred and sixty-one, in the twenty-fourth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said 20 Alfred Blake, Her special licence that I, the said Alfred Blake, my executors, administrators, and assigns, or such others as I, the said Alfred Blake, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within 25 the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN THE PROCESS OF BREWING**," upon the condition (amongst others) that I, the said Alfred Blake, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the 30 nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Alfred Blake, do hereby declare the 35 nature of my said Invention, and in what manner the same is to be performed,

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to be particularly described and ascertained in and by the following statement, that is to say :—

The usual mode of fermenting beer or worts from either malt or sugar, or a mixture of both, has been to mix the worts with yeast or beer in fermentation
5 as soon as they can be cooled after boiling, and mix worts of different gravities together in one or more fermenting tuns; the fermentation being completed by processes known in the trade as cleansing or skimming, and other methods according to the beer, ale, or porter required.

This Invention consists in keeping a portion of the first wort after boiling
10 with hops, in quantity varying from five to twenty-five per cent. of the whole quantity of beer to be made, in a separate vessel without yeast or ferment, or with a very small quantity at a relatively lower heat than the main body of the beer in ordinary temperatures. The fermentation of the larger quantity is
15 allowed to go on as usual, or rather more rapidly than ordinary, and when from one-fourth to three-fourths of the saccharine matter it originally contained has been decomposed, the before-mentioned smaller quantity of strong wort is mixed with it previous to the completion of the process and removal of the yeast by any of the usual methods. By this Invention, whether the
20 stronger and undecomposed wort or solution of malt or sugar mixed were the product of the same or subsequent brewings a great improvement in the flavor and keeping quality of the beer will result. The essential feature of this Invention is, in every brewing to mix worts or beer in different stages of fermentation previous to completing the process by any of the usual methods.

25 And in order to explain my said Invention as completely as possible, I now proceed to describe the best means I am acquainted with for carrying the same into practical effect, as follows, that is to say :—

Where two worts only are made, I ferment the second wort with a small portion of the first or strongest wort, say, from $2\frac{1}{2}$ to 5 per cent. thereof, and
30 where three worts are made I ferment part of the second wort, and the whole of the third wort at a relatively higher temperature at the commencement of the fermentation, say, from 66° to 70° Fahrenheit, with from two to four pounds of yeast to every barrel, and the remaining strong wort or worts I retain in a separate tun or vessel without yeast or ferment, or only a very small
35 quantity at a lower temperature than the other wort, say, from 56° to 62° Fahrenheit. I would here observe that after the decomposition of the weaker worts has been indicated by the saccharometer to have progressed from one-fourth to one-half of their original density, the strong worts previously retained should then be gradually mixed in with the weaker worts aforesaid.

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I have found it desirable, as a general rule, to perform this mixing within twenty-four hours from the time of commencing to "put them together," the fermentation being allowed to progress according to the judgment of the brewer; the process being completed by skimming, cleansing, or other methods commonly used and well known to practical brewers; only observing, that in 5 some cases it may be found desirable to keep back a small quantity of the strong wort retained, as aforesaid, and to mix from one to two gallons thereof to each barrel of the beer during the cleansing of the beer in the cleansing casks as it runs from the fermenting tun. Or the same proportionate quantity might be mixed with the whole body of the beer immediately previous to the 10 cleansing process; the mixing of the strong unfermented wort will be best accomplished if a portion of the upper part of the fermenting tun be formed as a separate chamber to contain the aforesaid stronger worts, which may be run into said chamber from the cooler or refrigerator, said chamber being fitted with a regulating screw valve, by which the strong wort may pass, and 15 thus be gradually mixed with the weaker wort contained in the other part of the fermenting tun, aforesaid, below it. Or, instead of making a separate chamber in the fermenting tun, as above stated, the strong wort aforesaid can be run from any vessel or reservoir placed above the fermenting tun aforesaid, and furnished with a screw valve, as before stated, or the strong wort may be 20 pumped into the tun.

The above improved process of fermentation nearly reverses the ordinary methods of fermentation hitherto employed for mixing worts (or parts of the brewing) with the yeast or ferment in nearly the same order as they are drawn 25 from the malt and boiled with the hops, and further, by employing the above improved process, I have found a greater quantity of the saccharine and mucilage can, if it be desired, be decomposed without unduly forcing the fermentation.

I would here remark, that although I have proposed in my Provisional Specification, above recited, to keep in a separate vessel from five to twenty-five per 30 cent. of the first or strongest wort, I do not intend to limit or confine myself to this precise amount of per-centage, as I have since found in practice that advantage may be derived by increasing the quantity of the first or strongest wort to be retained to from ten to fifty per cent. thereof; and I would further remark, that whereas from the nature of the process of fermentation it is 35 impossible, as all practical brewers are aware of, to give definite tabular statements of the heats decomposition requires for mixing the worts together, and quantities of yeast arising from various causes, over which the brewer has no control, such as changes of atmospheric temperature, electrical state of the

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atmosphere, and quality of the malt and hops of different years, and at different seasons of the year, and the locality of the brewery, all of which exercise such an influence on the process of fermentation that the practical brewer must, as heretofore, be guided by these extraneous circumstances, and exercise his
5 judgment accordingly, whether he conducts the process on my improved plan, or according to the usual methods.

Having now fully described and set forth the nature and object of my said Invention of "Improvements in the Process of Brewing," together with the best means I am acquainted with for carrying the same into practical effect, I
10 would remark, in conclusion, that whereas the ordinary system of fermentation has been to mix the worts or parts of the brewing with the yeast, or set them to ferment in the order in which they are drawn from the malt and boiled with the hops, and either slowly or rapidly to ferment them together from the first, in lieu of the above ordinary method, I conduct the whole of the fermentation
15 in the manner above particularly described, namely, by dividing the brewing, and afterwards mixing it, and conducting the fermentation as before stated; and I claim this peculiar mode of conducting the process of fermentation as constituting my Invention of improvements in the process of brewing.

In witness whereof, I, the said Alfred Blake, have hereunto set my
20 hand and seal, this Twenty-seventh day of November, in the year of our Lord One thousand eight hundred and sixty-one.

ALFRED BLAKE. (L.S.)

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